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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,012	03/31/2004	Masao Teraoka	F-8196	9549

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JORDAN AND HAMBURG LLP
122 EAST 42ND STREET
SUITE 4000
NEW YORK, NY 10168

EXAMINER

BONCK, RODNEY H

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,012

Applicant(s)

TERAOKA, MASAO

Examiner

Rodney H. Bonck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-14, 16-23, 25-41 and 43-47 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5, 7, 9, 12, 14, 17, 19, 21-23 and 25-41 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46 and 47 is/are allowed.
- 6) ☒ Claim(s) 2, 4, 6, 8, 10, 11, 13, 16, 18, 20, 22 and 43-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following action is in response to the request for continued examination and amendment received September 25, 2006.

Claims 3, 5, 7, 9, 12, 14, 17, 19, 21,23, and 25-41 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on October 6, 2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 8, 11, 13, 20, 22, 44, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites that the urging member "is provided to interfere to rotation". This language is awkward and the intended meaning is not clear. Apparently "to interfere to rotation" should be reworded. This same language appears in claims 8 and 45. Claims 20, 22 and 44, which depend from claims 6, 8 and 45, respectively, incorporate the independent claims and therefore have the same deficiency. Claim 11 does not appear to further limit claim 2, from which

it indirectly depends (see lines 15-23 of claim 2). Claim 13 depends from claim 11 and therefore also appears to include the double inclusion of the limitations of claim 11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 4, 10, 11, 13 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakakibara et al.('347). The Sakakibara et al. device discloses a torque transmission coupling including input-output rotary members 17, 16, a frictional engagement section 15, a compression member set comprising a pair of members 25, 26 that generate thrust, and a rotary actuator 21. The compression member set is a gear set comprising a pair of gears 25, 26, an outer gear 22, and an outer gear support provided by motor 21. Gears 25, 26 comprise proximal gear 24,26 and a distal gear 23,25. The proximal gear being disposed radially inward of the outer gear. The coupling further comprises an exterior housing 31 and a pinion shaft 11,17,32 (see Fig. 2) connected to the input rotary member 17. The pinion shaft 11, 17, 32 is rotatably supported by a pair axially spaced bearing 30,34. The center axes of the bearing and pinion shaft being mutually angularly offset. Outer gear support (motor 21) is non-rotatably supported. A cam mechanism 18, 19, 20 is interposed between the gears. One of the members is supported axially along the axis of rotation via bearings 33, 34.

The torque transmission coupling is disposed at any one of an output side of a transfer device, an input side of a rear differential, a propeller shaft between a transfer device and a rear differential, a front-wheel side acceleration shaft, and a rear-wheel side acceleration shaft of a four-wheel drive vehicle (see Fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 10, 11, 13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hakui('521) in view of Sekiya et al.('274). The Hakui device discloses a torque transmission coupling including input-output rotary members 21, 35, a frictional engagement section 33, a compression member set comprising a pair of members 23,24 that generate thrust, and a rotary actuator M. The compression member set is a gear set comprising a pair of gears 23,24, an outer gear 42 (Fig. 4), and an outer gear support 40. Gears 23,24 comprise proximal gear 23 and a distal gear 24. The proximal gear being disposed radially inward of the outer gear 42. The coupling includes an exterior housing 7. The end of input shaft 20d is not shown in Hakui, but to provide a pinion to provide input to shaft 20d would have been recognized as an obvious expedient to the artisan, *i.e.*, a pinion gear has long been recognized as a suitable manner of introducing torque to a shaft. Claim 2 also calls for spaced bearings

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supporting the shaft relative to the housing. Hakui does not show where the shaft exits the housing, but using spaced bearings that have axes angularly offset from the shaft is well known in this art, as seen by Sekiya et al. It would have been obvious to provide such a bearing arrangement to support the shaft 20d in Hakui, the motivation being to provide an axially rigid, rotational support for the shaft. The outer gear support in Hakui is non-rotatably supported as claimed. The rotary actuator M and the frictional engagement section in Hakui are disposed with rotational axes being aligned.

Allowable Subject Matter

Claims 46 and 47 are allowed.

Claims 6, 8, 20 and 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

The amendment of September 25, 2006 overcomes the rejection under 35 USC 112, 1st paragraph, set forth in the final rejection of March 14, 2006. Elimination of the reference to planetary gearing in the elected embodiment overcomes the previous rejection under 35 USC 112, 2nd paragraph. Other deficiencies were also corrected in the amendment of September 25, 2006. Accordingly, the previous rejections under 35 USC 112 are withdrawn.

In reviewing the claims, other deficiencies under 35 USC 112, 2nd paragraph, have been noticed, resulting in the new rejection under 35 USC 112 above. In addition, certain of the claims are seen as met by the prior art as indicated above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Boden('206), Boden('963), and Griffith('258) show other examples of pinion shafts supported on axially spaced bearing having axes offset from that of the shaft.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571) 272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney H. Bonck
Primary Examiner
Art Unit 3681

rhb
November 3, 2006